

## **CLAIMS:**

1. A semiconductor device comprising:
  - a first semiconductor chip having a semiconductor substrate area and a transistor forming area;
  - at least one first electrode formed on the periphery of the semiconductor substrate area;
  - at least one second electrode formed on the periphery of the transistor forming area;
  - a second semiconductor chip mounted on the semiconductor substrate area of said first semiconductor chip;
  - at least one third electrode formed on said second semiconductor chip;
  - a plurality of leads disposed around said first semiconductor chip;
  - at least one first metal wire which connects the first electrode of said first semiconductor chip and the third electrode of said second semiconductor chip;
  - at least one second metal wire which connects said second electrode of said first semiconductor chip and said each lead; and
  - an encapsulating resin for sealing said first and second semiconductor chips, said first and second metal wires and some of said leads.
2. The semiconductor device according to claim 1, wherein the semiconductor substrate area is surrounded by the transistor forming area.
3. The semiconductor device according to claim 1, wherein the

semiconductor substrate area is an approximately central area of said first semiconductor chip.

4. The semiconductor device according to claim 1, wherein the semiconductor substrate area is larger than the area of the second semiconductor chip.

5. The semiconductor device according to claim 1, wherein said third electrode of said second semiconductor chip is electrically connected to said second electrode of said first semiconductor chip through a transistor formed within the transistor forming area of said first semiconductor chip.

6. A semiconductor device comprising:

- a first semiconductor chip having a first area and a second area which surrounds the first area;
- at least one first electrode formed on the periphery of the first area;
- at least one second electrode formed on the periphery of the second area;
- a second semiconductor chip mounted on the first area of said first semiconductor chip;
- at least one third electrode formed on said second semiconductor chip;
- a plurality of leads disposed around said first semiconductor chip;
- at least one first metal wire which connects the first electrode of said first semiconductor chip and the third electrode of said second semiconductor chip;
- at least one second metal wire which connects said second

electrode of said first semiconductor chip and said each lead; and  
an encapsulating resin for sealing said first and second  
semiconductor chips, said first and second metal wires and some of said  
leads.

7. The semiconductor device according to claim 6, further including:  
a microcontroller used as a mask ROM formed on the first area, and  
wherein said second semiconductor chip serves a function of a flash  
memory.

8. The semiconductor device according to claim 7, wherein the first  
area is an approximately central area of said first semiconductor chip.

9. The semiconductor device according to claim 7, wherein the first  
area is larger than the area of said second semiconductor chip.

10. The semiconductor device according to claim 7, wherein said  
third electrode of said second semiconductor chip is electrically connected to  
said second electrode of said first semiconductor chip through a transistor  
formed within a transistor forming area of said first semiconductor chip.